

**COMMELINA CLAVATOIDES (COMMELINACEAE),
A NEW SPECIES FROM KERALA, INDIA**

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ABSTRACT

A new species of Commelinaceae, **Commelina clavatoides**, is described from Kerala, India. It is closely allied to *C. clavata* C.B. Clarke, but differs by its long internodes, leaf and peduncle, antherode with a cream or purple spot at the centre, free sepals, 5–6 capsules per spathe and shallow-pitted, ovoid to oblong seeds.

KEY WORDS: Commelinaceae, *C. clavatoides*, India

RESUMEN

Se describe una especie nueva de Commelinaceae, **Commelina clavatoides**, de Kerala, India. Está intimamente relacionada con *C. clavata* C.B. Clarke, pero se diferencia por sus largos internudos, hoja y pedúnculo, anterodio con una mancha crema o purpura en el centro, sépalos libres, 5–6 cápsulas por espata y semillas con punteaduras poco profundas, de ovoides a oblongas.

INTRODUCTION

Commelina L. comprises about 170 species (Faden 1998) of which 24 species were reported from India (modified after Karthikeyan et al. 1989). As part of the ongoing studies on the revision of *Commelina* in India, the authors have made extensive explorations in various parts of India since 2002. The specimens of this species were first collected in 2002 from Paithalmala, a grassy hill slope in northern Kerala. It remained in cultivation in the Botanical Garden of St. Joseph's College for a long time, but subsequently perished. However, after a lapse of seven years, the third author collected this species again from another hill tract in southern Kerala, almost 300 km from the first locality. Since then, we have collected this species from a few more localities in Kerala. This taxon is unique in having 5–6 capsules per spathe and shallow-pitted, ovoid to oblong seeds and is here described as a new species: *Commelina clavatoides*.

Commelina clavatoides Nampy & S. Joseph, sp. nov. (**Figs. 1–2**). TYPE: INDIA. KERALA: Idukki district, Adimali-Munnar roadside, 19 Nov 2010, Sheba M. Joseph & Santhosh Nampy 4016 (HOLOTYPE: DEV; ISOTYPES: BRIT, CALI).

Commelina clavatoides is similar to *C. clavata* C.B. Clarke, but differs from the latter by the 6–10 cm long peduncles, free lateral sepals, 5–6 capsules per spathe and shallow-pitted, ovoid to oblong seeds as opposed to the 2.5–4.5 cm long peduncles, basally fused lateral sepals, 2 or rarely 3 capsules per spathe and shallow-reticulate, elliptic seeds seen in *C. clavata*.

A much-branched, extensively scrambling, probably perennial herb with a definite base; roots long, thick, fibrous. Stem terete, ca. 8 mm in diam., green with red striations; internodes 6–15 cm long. Leaves distichous; sheath ca. 3 cm long, strigose, ciliate at apex, mottled with red striations; lamina narrowly lanceolate, 10–14 × 1–2 cm, acuminate at apex, cuneate at base, serrulate at margins, upper surface scabrous, lower surface glabrous. Spathe broadly cordate, 4–5.5 × 1.5 cm, conduplicate, acute at apex, ciliate towards base, puberulent on both surfaces, lower half pale green, upper half dark green; peduncle 6–10 cm long, green, strigose, leaf-opposed. Upper cincinnus 2–2.5 cm long, exerted, ciliate, 1 or rarely 2 male flowered; lower cincinnus 1.5–2 cm long, glabrous, 6 or 7 bisexual flowered. Sepals free, transparent, anterior boat-shaped, narrowed at apex, posterior sepals oblong. Petals bright blue; paired petals orbiculate, claws 2 mm long; medial petal deltoid, claw 1 mm long. Staminodes 3, equal; filaments slender; antherode yellow, 4-lobed with 2 lateral appendages; central

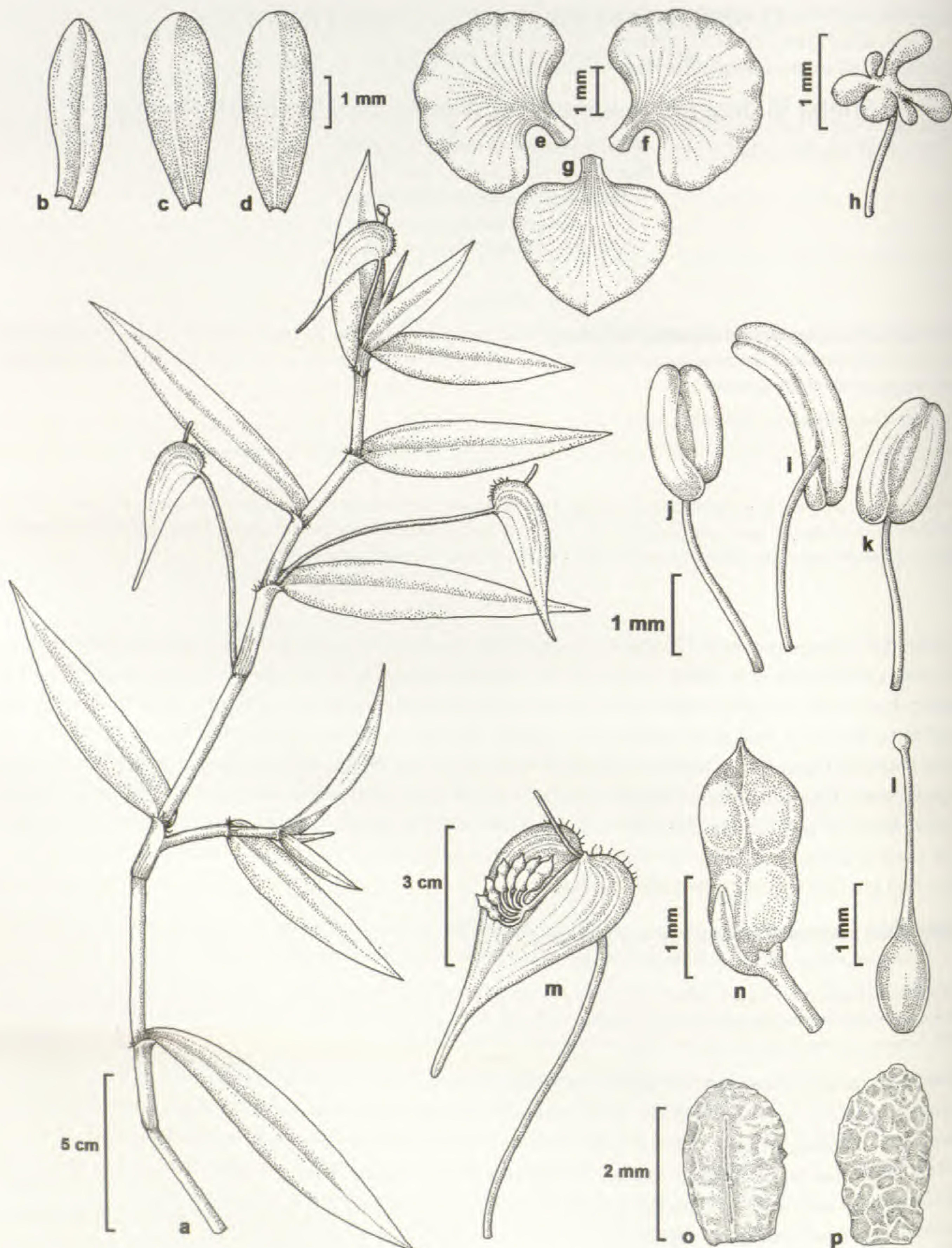


FIG. 1. *Commelinac clavatoides* Nampy & S. Joseph. a. Flowering twig, b. Anterior sepal, c-d. Posterior sepals, e-f. Paired petals, g. Medial petal, h. Staminode, i. Medial stamen, j-k. Lateral stamens, l. Gynoecium, m. Spathe with capsules, n. Capsule, o. Seed in ventral view, p. Seed in dorsal view (Drawn by K.M. Manudev from Sheba M. Joseph & Santhosh Nampy 4016).

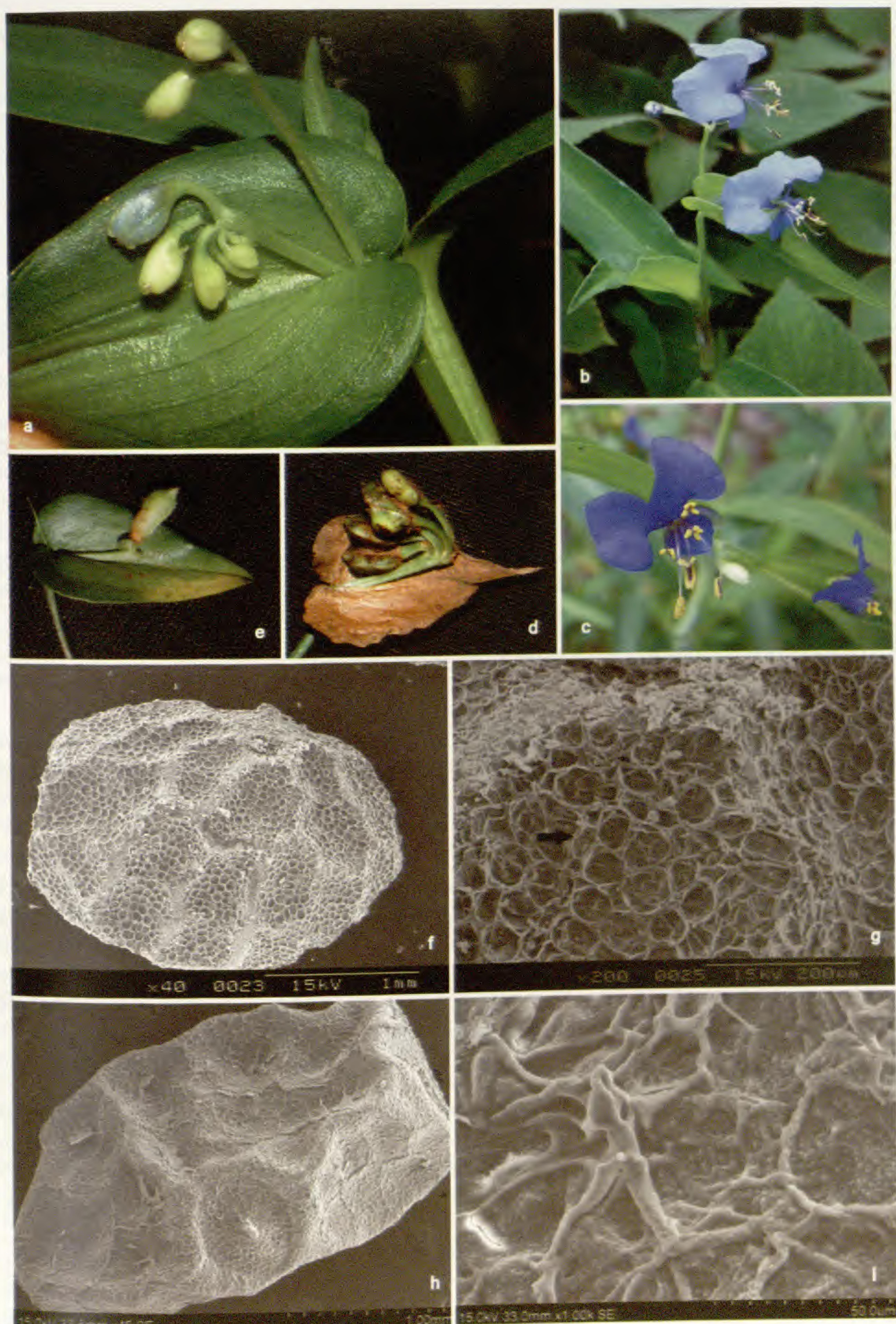


Fig. 2 (a-d, h & i). *Commelina clavatoides* Nampy & S. Joseph. **a.** Spathe with cincinni and flower buds, **b.** Spathe with upper and lower cincinni bearing opened flowers, **c.** Flower, **d.** Spathe with mature capsules, **h-i.** SEM of seeds; (e-g). *Commelina clavata* C.B. Clarke, **e.** Cincinni with capsule, **f-g.** SEM of seeds. (Photos b & c by K.M. Prabhu Kumar)

TABLE 1. Morphological differences between *C. clavata* and *C. clavatoides*.

Characters	<i>C. clavata</i>	<i>C. clavatoides</i>
Internode	7–9 cm long	6–15 cm long
Lamina size	3–10 × 0.4–1.5 cm	10–14 × 1–2 cm
Color of spathe	Green throughout	Upper half dark green, lower pale green
Spathe size	2–4 × 0.7 cm	4–5.5 × 1.5 cm
Peduncle	2.5–4.5 cm long	6–10 cm long
Lower cincinnus:		
No. of flowers & indumentum	2–3, ciliate	6–7, glabrous
Fusion of lateral sepals	Basally fused	Free
Color of antherode	Yellow with a maroon central spot	Yellow with a cream or purple central spot
No. of capsules in spathe	2 or rarely 3 per spathe	5–6 per spathe
Seed shape	Elliptic	Ovoid to oblong
Testa ornamentation	Shallow, reticulate	Shallow, pitted

spot cream or purple. Stamens 3; lateral stamens with straight anther, medial stamen with curved anther. Ovary elliptic, green; style white, 3 mm long, slightly curved; stigma capitate. Capsules 5–6 per spathe, oblong, compressed, bilocular; dorsal locule absent; ventral locules 2-seeded. Seeds ovoid to oblong, ca. 3 × 1 mm, testa black, pitting shallow, hilum linear, embryotega lateral.

PARATYPES: INDIA. KERALA. Idukki district: Marayoor, 21 Oct 2009, Santhosh Nampy 2293 (DEV). Kannur district: Paithalmala, 14 Sep 2002, Santhosh Nampy & Joby Paul 829 (DEV). Kozhikode district: cultivated, Devagiri College Botanical Garden, 03 Dec 2011, Sheba M. Joseph 4044 (DEV). Palakkad district: Nelliampathy, 19 Nov 2010, Shahina P.M. & Sheba M. Joseph 4024 (DEV).

Flowering & fruiting.—September–November; flowers opening from 9.00 am–12.00 pm

Ecology.—Usually adapted to high altitude (above 1750 m). It grows on vertical earth cuttings along the margins of wet evergreen forest.

Etymology.—The epithet *clavatoides* indicates the similarity of the new species to *C. clavata* C.B. Clarke. Both species have scabrous leaf, ciliate, navicular spathe and 4-seeded capsules. The two species are separated by the characters listed in Table 1.

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REFERENCES

- FADEN, R.B. 1998. Commelinaceae. In: K. Kubitzki, ed. The families and genera of vascular plants. Springer-Verlag, Berlin. 4:109–128.
- KARTHIKEYAN, S., S.K. JAIN, M.P. NAYAR, AND M. SANJAPPA. 1989. Florae Indicae Enumeratio Monocotylodonae. Flora of India Series.4. Botanical Survey of India, Kolkata.